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Testimony for The Pew Charitable Trusts
Presented by Velma Smith before the Texas House of Representatives
Natural Resources Committee

Creating New Partnerships for Flood Preparedness

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The Pew Charitable Trusts (Pew) appreciates the Natural Resources Committee's kind invitation to offer testimony as the Texas State Legislature begins its important conversation about how to better protect the people of Texas from the devastation of flooding.

Founded in 1948, the Pew Charitable Trusts is an organization committed to the belief that sound public policy springs from data, science, and facts put to the service of the public good. We work to use the power of knowledge to solve some of the nation's most challenging problems. Today, our efforts are focused at the federal level and in more than 40 states on a range of issues, with work on topics ranging from children's dental health and criminal justice reform to protection of our ocean resources and stewardship of federal lands.

With a master's degree in urban and regional planning and real life experience as a local land use planner and, obviously, what is more than a few years of work in water policy, I join other policy analysts and researchers in Pew's Flood-prepared Communities team, who have been tracking and analyzing the impacts of flooding across the country and examining policies and programs that offer promise.

Pew's Flood-prepared Communities Initiative aims to reduce the impact of flood-related disasters on communities and taxpayers by improving federal and state laws and programs that can or should serve to protect people and property from the nation's most frequent and most costly natural disaster. We apply Pew's trademark analytical approaches to public policy, looking at the nation's experience with flooding events and identifying research gaps and policy needs– including addressing policies that can stand in the way of flood readiness.

Pew has looked at the numbers – the number of storm events, the huge and mounting costs for response and recovery and the comparatively paltry sums for mitigation and preparation. We have listened to the experts in the field from across the country, including some who are doing important work here in

Texas, and we have learned from dedicated flood protection professionals in many communities who are finding creative ways to fill a dangerous resilience gap and fortify for the future.

Overall Pew's research concludes that the nation is falling short on preparedness. The cycle of flood, damage, and rebuild is perpetuated by an approach that favors response over readiness.

Since 2000, catastrophic storm events have cost the nation more than $800 billion.[1] Over and over again, the federal government has been called upon after the fact to pay for flood losses and recovery — with Congress recently forgiving $16 billion in debt to the Treasury owed by the National Flood Insurance Program[2], allocating billions in assistance for the Federal Highway Administration's Emergency Relief program[3], using the Federal Emergency Management Agency's Public Assistance fund to repair under-insured public buildings and utilities[4], and appropriating billions for recovery to the Department of Housing and Urban Development[5]--critical investments for community recovery efforts.

However, it pays to prepare. According to a 2018 report by the National Institute of Building Sciences, for every dollar spent on hazard mitigation, the nation saves on average $6.[6] In the case of riverine flood, projects involving acquisition or demolition of flood-prone buildings save $7 for every dollar invested. The benefits come largely from avoided property damage, casualties associated with storms, and savings when businesses and communities quickly return to normal following a flood event.

Unfortunately, funding such efforts have fallen short over the years. Most notably, the Stafford Act's Pre-Disaster Mitigation Program, established after the punishing Midwest storms of the 1990s, has received appropriations measured at a fraction of post-storm expenditures.

Again and again, the nation has shown a willingness to treat each severe storm as an aberration, one unlikely to be repeated. Individuals and businesses build back too frequently without additional protections, without taking sensible, prudent, and life-saving precautions. Too often community leaders don't consider how policies and practices can be changed to move people and assets out of harm's way or how resources can be redirected into projects that will protect over the long-term.

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[1] National Oceanic and Atmospheric Administration, "Billion-Dollar Weather and Climate Disasters: Table of Events," National Centers for Environmental Information, https://www.ncdc.noaa.gov/billions/events/US/1980-2018; Leslie Scism and Erin Allworth, "Moody's Pegs Florence's Economic Cost at $38 Billion to $50 Billion," *Wall Street Journal*, September 21, 2018, https://www.wsj.com/articles/moodys-pegs-florences-economic-cost-at-38-billion-to-50-billion-1537572161.

[2] Congressional Research Service, "National Flood Insurance Program Borrowing Authority," updated January 14, 2019, https://fas.org/sgp/crs/homesec/IN10784.pdf.

[3] Federal Highway Administration, "Emergency Relief Program," updated January 22, 2019, https://www.fhwa.dot.gov/programadmin/erelief.cfm.

[4] The Pew Charitable Trusts, " What We Don't Know About State Spending on Natural Disasters Could Cost Us," June 2018, https://www.pewtrusts.org/-/media/assets/2018/06/statespendingnaturaldisasters_v4.pdf.

[5] Department of Housing and Urban Development, "Monthly CDBG-DR Grant Financial Report, December 30, 2018," https://www.hudexchange.info/resources/documents/CDBG-DR-Financial-Report-2019-01-01.pdf.

[6] National Institute of Building Sciences, "Natural Hazard Mitigation Saves: 2017 Interim Report," December 2017, http://www.wbdg.org/files/pdfs/MS2_2017Interim%20Report.pdf .

That is why Pew believes we must look for new approaches.

Should the federal government stop helping communities recover? Of course not. Even our best efforts will not stop the rain or safeguard every home. The federal Treasury has long been involved in disaster relief and recovery, and that should continue with guardrails—guardrails that assure stronger rebuilding.

Still, the balance must shift. Simply put, the federal government, states, and localities should invest more before disasters strike in order to undertake flood mitigation projects that will be better prepare communities for the next big flood and reduce long-term costs—projects such as relocating repeatedly flooded properties, enhancing stormwater management, or restoring streams, To assure success, the states must also step forward as partners and leaders in preparedness.

We believe there is a promising model for such a partnership. Bipartisan bills introduced in the last Congress, including a bill introduced by Texas Representative Roger Williams and Florida Representative Charlie Crist[7], would establish a flood mitigation revolving loan fund program. Following the model that has helped the nation deliver drinking water to many thousands of communities and to improve water quality with wastewater treatment investments, a flood mitigation revolving loan fund would start with seed monies from the federal government. State dollars would add to those funds, and, in some cases, it may also be possible to leverage private investment with municipal bonds.

The states, which already have good experience in managing revolving loan funds, could evaluate needs across communities and set priorities. Some communities would be given loans—repaying loans for needed projects over time—rather than being faced with enormous "repair bills" that come due all at once following a storm. Other communities might need more assistance: Where incomes and economic circumstances dictate, the state might offer grants rather than loans. And, as loan payments return or "revolve" back to the fund, more communities could be helped over time.

What types of projects might be funded by such a program? The bills that have been drafted would allow significant latitude for states and communities to fund a range of projects that could alleviate or lessen the impacts of flooding.

Some communities would happily use funds to purchase properties that have been repeatedly flooded and are likely to flood again. Structures on those properties could be demolished and the floodplain restored to its natural function: acting as a sponge for excessive rainfall. Some land could become ballfields or walking or bicycle pathways. Other communities might seek to upgrade culverts that carry stormwater, build new stormwater retention basins, or upgrade drainage pumps. Elsewhere priorities

[7] H.R. 7037, State Flood Mitigation Revolving Fund Act of 2018, https://www.congress.gov/115/bills/hr7037/BILLS-115hr7037ih.pdf.

might be to restore or conserve wetlands, protect shorelines or dunes, or stabilize an eroding riverbank. Funds could also go to floodproofing or elevating structures. A drought-conscious state might even look at options for managing stormwater for aquifer replenishment.

The aim would be to allow each state to work with its own communities to evaluate cost-effective and technically feasible options for lessening flood damages.

We know that some have been wary of the loan aspect—hoping to see outright grants in all instances. Nonetheless, we think there are advantages to a loan program that "revolves"—as long as it is tempered with a reasonable degree of special assistance for poorly-resourced communities.

As some Texas communities know well, competition for a yearly grant program from the federal government can be time-consuming and disappointing. A community that is turned down for a federal grant one year cannot necessarily wait and reapply the next year. But if the State is managing a loan fund for the long-term and looking at the whole portfolio of needs, it may be able to set priorities in a more constructive and predictable way. Communities can get a better sense of when their turn for help is likely to arrive.

Second, the State—in managing a program year-round and year after year—can build up and sustain its own cadre of experts and institutional capacity for mitigation planning and implementation. Rather than wait for a huge allotment of one-time funds and then quickly out-source or contract for the oversight of projects, the State could staff up to retain and deploy its own personnel. Those individuals would develop flood mitigation expertise specific to Texas and establish important relationships with local citizens, organizations, and policymakers.

There are many groups around the country—including the Houston Northwest Chamber of Commerce and the Bay Area Houston Economic Partnership, for example—supporting this mitigation revolving loan fund concept, and we are hopeful that the 116th Congress will move quickly to take up bills like that championed by Representatives Williams and Crist (see attachment).

Pew is also delighted to see the very serious consideration that Texas is giving to helping itself with flooding issues. We see the potential for good synergies between Texas initiatives under consideration and possible improvements in flood policy at the federal level. If the State chooses to take an active leadership role in flood mitigation and puts State funds into "futureproofing" Texas, you would not only serve the flood-weary citizens of the State, but also position Texas communities to take full advantage of any new federal assistance that becomes available.

The deliberations and reports that Texans have produced since the devastation of Harvey are impressive: The report from the General Land Office[8], for example, offers a straight-talking, balanced discussion of the issues underlying flood risk. The report identifies the challenges, the differing points of view, and it doesn't avoid the difficult but important topics—like strengthened building codes. Similarly, the Water Board's report[9] covers a wide range of needs and issues—from improved understanding of flood risk to regional planning approaches on a watershed basis. Clearly, many in the legislature have read these reports and thought long and hard about what the people of Texas have endured. Various bills on flood disclosure for homebuyers and renters, education about flood insurance, and more have been introduced and deserve thoughtful consideration.

In closing, we offer a few flood mitigation and floodplain management principles for your consideration.

- State leadership can make a difference. In most places around the country, floodplain management today is a piecemeal and disjointed undertaking. Each local government—no matter how under-resourced—may choose to act or not to act to manage flood risks. State leadership and engagement can foster cooperation between communities and bring cohesion and cost-effectiveness to floodplain management.
- There is no free lunch. Understanding flood risks and implementing solutions costs money. But flood mitigation is an investment that will pay off—as the State of Florida notes, not only saving lives and lessening damages over the long term but also adding to the local or state economy.[10]
- Floodplain management should keep the nature of water in mind. Water has no regard for political boundaries or utility jurisdiction lines, and what happens in one part of a watershed can have big impacts elsewhere. It is wise to use watershed boundaries for assessing vulnerabilities and choosing cost-effective and durable flood solutions.
- There are many tools in the toolbox. With flooding, there is no one-size-fits-all, and the seemingly simple flood wall or dam solution that works in one place may not suit another. A narrow field of vision can hamper progress, and the best results may come from employing multiple tools at once. Building a new dam, for example, may be most effective, when it is accompanied by land use restrictions that keep new homes from sprouting up in the inundation zone.[11]

[8] Texas General Land Office, "Hurricane Harvey: Texas at Risk," August 24, 2018, http://www.glo.texas.gov/recovery/files/texas-at-risk-report.pdf.
[9] Texas Water Development Board, "State Flood Assessment: Report to the Legislature," January 2019, http://www.twdb.texas.gov/publications/reports/special_legislative_reports/doc/State-Flood-Assessment-report-86th-Legislation.pdf?d=11794.835000007879.
[10] Florida Division of Emergency Management's Bureau of Mitigation, "Economic Impact Analysis," 2011, https://www.floridadisaster.org/globalassets/importedpdfs/fdem-economic-impact-analysis-final-3.14.12.pdf.
[11] Note, for example, the State of Virginia's regulations regarding approval of subdivisions in mapped dam inundation zones, http://www.dcr.virginia.gov/dam-safety-and-floodplains/.

- Mother Nature can help. Healthy wetlands, salt marshes, dunes, and free-flowing rivers can act as holding basins for floodwaters, decreasing the effects of flooding on people, homes, and businesses while providing habitat for fish and wildlife. Programs to preserve open space, restore wetlands, keep rivers clean and fishable, replenish aquifers, or provide recreation can yield multiple benefits, including flood damage reduction.

- Flood risk is dynamic. Flood risk can change over time and in many fast-growing communities, risk to people and property can increase dramatically. That risk may manifest itself within that community or elsewhere. Communities like San Antonio, that take steps to stay on top of evolving flood risks can be better prepared to handle extreme events.[12]

- Delay can be costly. Some aspects of sound floodplain management will generate concern, and it can be important to devote sufficient time to debate and refine certain proposals—even those such as updated building codes and freeboard requirements that have been demonstrated to save lives and dollars.[13] Some of these solutions, however, are best suited to new construction, and if delay is prolonged, the opportunity to incorporate flood resilience into another generation of new buildings can be lost.[14]

- Flood amnesia will strike. People have plenty to worry about in their everyday lives. If they haven't just been shaken by a flood, they can and will likely forget. This forgetfulness can be countered with the types of education, disclosure, and transparency that individuals, organizations, and communities need to make smart, flood-ready decisions.

Chairman Larson, solving the flooding problems that your State faces will not be easy. Flooding is one word, but it is a large complex of connected problems. Vulnerability to flooding is linked to where we choose to live, how we build our homes and businesses, the way we plan and construct our roads and bridges, the priorities we place on protecting wetlands, riverbanks, or shorelines, how dams are operated and maintained, how erosion is managed, and more.

On behalf of the Pew Charitable Trusts, I salute you and members of the Committee for taking on the task of flood preparedness and look forward to seeing your progress.

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[12] See, for example, flood risk viewer under development by the San Antonio River Authority, which will provide information on flood risks beyond the traditionally mapped 1 percent annual chance floodplain, https://www.sara-tx.org/flood-management/riskmap/.

[13] Jones, Christopher P., William L. Coulbourne, Jamie Marshall, and Spencer M. Rogers, Jr., "Evaluation of the National Flood Insurance Program's Building Standards," prepared for the American Institutes for Research as part of the 2001-2006 Evaluation of the National Flood Insurance Program, October 2006, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjy0o_Vi8bWAhVP4GMKHaqHAsoQFggoMAA&url=https%3A%2F%2Fwww.fema.gov%2Fmedia-library-data%2F20130726-1602-20490-5110%2Fnfip_eval_building_standards.pdf&usg=AFQjCNFBxMmBrGJVCiLMG-kvTfClwSzSPg.

[14] See, for example, Federal Emergency Management Agency, Region VIII, "Loss Avoidance Study: The Water Didn't Stop," http://www.casfm.org/wp-content/uploads/2017/08/R8_Loss_Avoidance_Study.pdf .